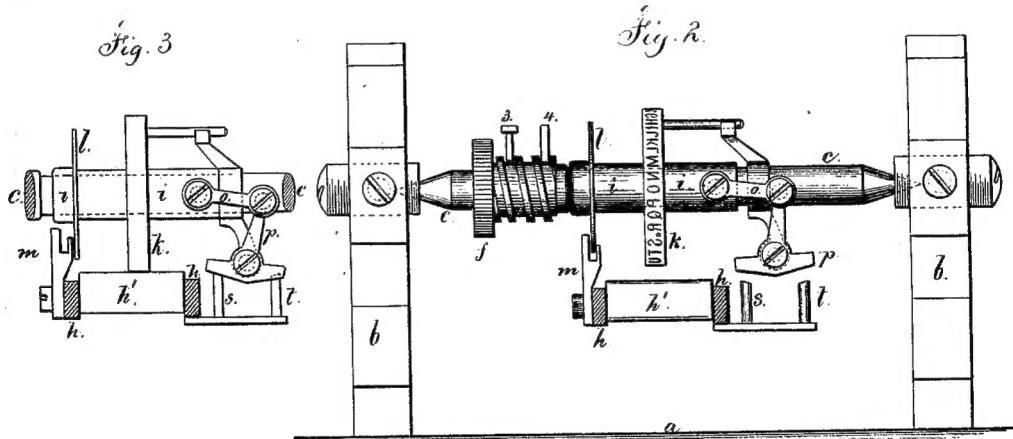
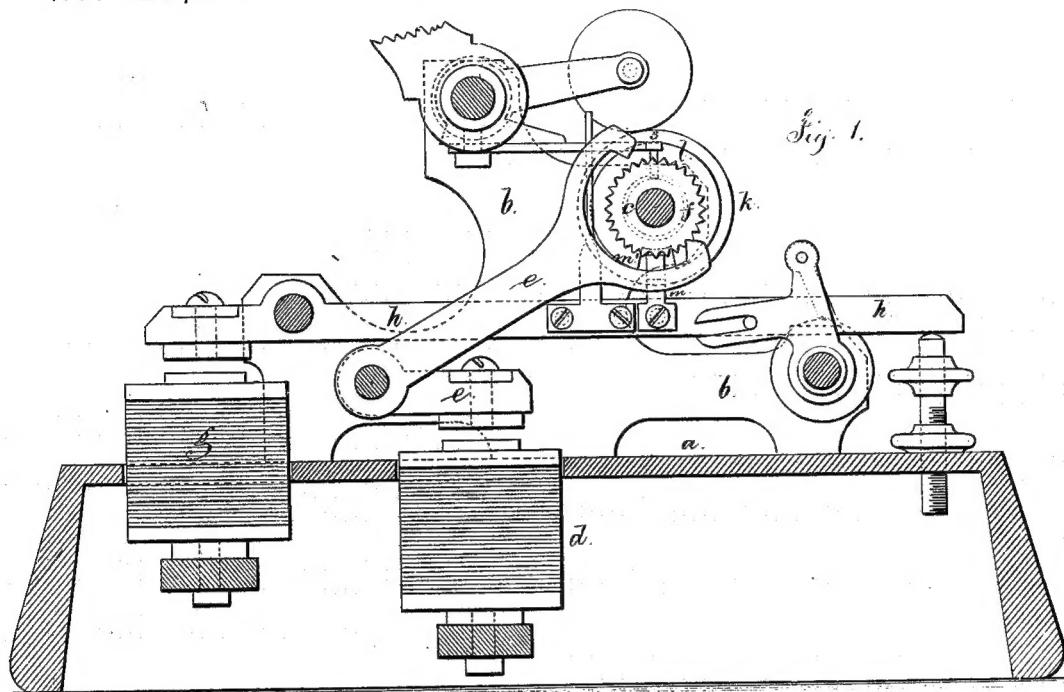


THOMAS A. EDISON.
 Improvement in Printing-Telegraphs.
 No. 126,533.

Patented May 7, 1872.



Witnesses

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IMPROVEMENT IN PRINTING-TELEGRAPHS.

Specification forming part of Letters Patent No. 126,533, dated May 7, 1872.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Newark, in the county of Essex and State of New Jersey, have made a new and useful Improvement in Printing-Telegraphs; and the following is declared to be a full and correct description of the same.

This invention relates to a printing-telegraph instrument of the same general character as that set forth in an application for Letters Patent dated January 3, 1872; and this improvement consists of a locking device for preventing any instrument in the circuit receiving an impression of a message being sent except that one which the operator at the transmitting-station unlocks and brings into unison with his own instrument.

In the drawing, Figure 1 is a vertical section of a printing-telegraph instrument with my improvement applied. Fig. 2 is an elevation of the type-wheel shaft and its parts, together with a portion of the printing-lever, said parts being in position so that an impression cannot be made from the type-wheel; and Fig. 3 is an elevation of the same parts in position for printing.

a represents the bed, and *b b* the side frames of the machine. *c* is the type-wheel shaft, revolved by a step-by-step motion derived from the electro-magnets *d*, armature and lever *e*, and ratchet *f*. *g* are the electro-magnets for the impression-lever *h*. These parts are all of usual character, as is also the paper-feeding device. *i* is a sleeve sliding freely upon the shaft *c*, but turning with it, and secured to this sleeve is the type-wheel *k*, and also a disk, *l*, with one notch, *m'*, in its periphery. (See Fig. 1.) Upon the printing-lever *h* is an arm, *m*, and the upper part of this arm is made as a fork to receive the edge of the disk *l* when the parts are in the position shown in Fig. 2, and in this position an impression cannot be taken from the type-wheel, because the edge of the disk *l* acts as a stop to limit the movement of the impression-lever and prevent said lever and its pad *h'* rising high enough for that purpose. When the parts are in the position shown in Fig. 3 the disk *l* is free from the fork of *m* and the instrument is in condition for receiving and printing a message. The mechanical means for shifting the sleeve *i* and its disk

and type-wheel are the same as in aforesaid application for shifting the sleeve and type-wheel, viz., by a link, *o*, connected at one end to the sleeve *i* and at the other end to a T-lever, *p*, pivoted to an arm on the type-wheel shaft; and this lever *p* is moved by the pins *s* and *t* on the printing-lever to shift the sleeve in either direction; but the shaft *c* has first to be rotated until the notch *m'* in the disk *l* coincides with the arm *m* before said sleeve can be shifted. This notch *m'* is differently located upon each instrument.

I will now proceed to describe the manner in which the operator at the transmitting-station unlocks the desired instrument in the circuit and brings the same in unison with his transmitting-instrument; but it is first to be understood that all the type-wheels *k* have the same letters and correspond with those on the transmitting-dial, and also that there may be as many instruments in the circuit as there are letters upon said dial, and that each machine is known by a particular letter. The operator, by pulsations sent through the magnets *d*, first rotates all the type-wheel shafts until each shaft is arrested in its revolution by the arm *3* and stop *4*; but the type-wheels are not in unison with each other nor with the transmitter, but stop on different letters—one on A, another on B, another on C, and so through the alphabet. If the operator now desires to unlock the C machine, he turns the hand of the transmitting-dial until it is over the letter C, and then closes the circuit, through the magnets *g*, so as to throw up the printing-lever *h* and disconnect the arm *3* from the stop *4* of each instrument and allow all the type-wheels to be revolved, when pulsations are sent through the magnets *d*. There is sufficient space between the edge of the disk *l* and the bottom of the notch or fork *m* to allow of the limited movement of the printing-lever necessary to operate the arm *3*, but not sufficient to allow of an impression being made. The C machine (the machine which stopped at the letter C) is now in unison with the transmitter, and to unlock said disk *l* from the notch of *m* it is necessary to turn the hand of the transmitter to that part of the dial which indicates that the notch in *l* is over and in line with the fork *m*. When the hand is brought to this point

the circuit is to be closed through the magnets *g*, which moves the impression-lever and brings the pin *s* in contact with the T-lever *p*, moving the same so as to slide the sleeve *i* and free the disk *l* from *m*. The machine is now in condition for receiving and printing a message. When this machine is no longer required for use the operator turns the hand of the transmitter to that point which indicates that the notch in *l* coincides with the fork *m*, and, by closing the circuit through the magnets *g*, the lever *h* is raised, and the pin *t* shifts the sleeve and disk, and the machine is again locked. I prefer that the sleeve *i* be shifted by the pin *s* to unlock the disk *l*, when the current is closed, through the type-wheel magnets *d*, and locked by the pin *t* when the circuit to said magnets is open. The disk *l* and type-wheel may be fixed upon the shaft and the stop *m* moved transversely of the printing-lever, the stops *s* and *t* projecting from the type-wheel shaft.

The type-wheels might be all set at unison with each other, and the disk *l* and shifting devices changed to different positions, so that they all could be unlocked and the message sent to all the machines, which is not the case now.

I claim as my invention—

1. A locking mechanism, actuated by the movement of the printing-lever, for preventing an impression, in combination with the type-wheel and its actuating mechanism that controls the movement of the said locking mechanism.

2. A type-wheel and unison mechanism, in combination with a locking and unlocking mechanism for preventing or allowing an impression, substantially as specified.

Signed by me this 14th day of February, A. D. 1872.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.

T. A. EDISON.